BIO EFFICACY EVALUATION OF ACARITOUCH® (LAURIC ACID) AGAINST RED SPIDER MITE IN TEA UNDER PLANTER MANAGE CONDITIONS IN UVA REGION OF SRI LANKA

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ABSTRACT

Tea red spider mite *Oligonychus coffeae* (Nietner) (Acarina: Tetranychidae) is a pest in tea cultivation, and causes bronze colour spots on leaves, defoliation, browning, drying and/or dying of buds, and the death of plants. Chemical control methods is a concern as the presence of chemical residues in made tea may exceed the maximum residue limits and thus negatively affect the export market. The efficacy of Acaritouch® (Lauric acid 70% EC) on red spider mites has been proven under laboratory conditions. The objectives of this study were to determine its effect on red spider mite under field conditions, and if the repeated application of Acaritouch is more effective than the single spraying for the control of mites.

The experiment was laid out in a randomized complete block design with three blocks, each with sixty tea bushes. Each block was divided into two plots; five plants were randomly selected from each plot and were tagged for identification. The initial mite count on five leaves of selected plants in all three blocks was taken using a light microscope. In each block, one plot was sprayed with water (control) whereas the other plot received Acaritouch diluted in water at the label rate (1200 mL/ha). The blocks 2 and 3 were re-sprayed on day 7, and only the block 3 was re-sprayed on day 14 following the initial spraying. The number of mites present on the five leaves of each selected plant was counted on day 0 (before spraying), and 7, 14, and 21 days following spraying.

There was no difference in the initial mean mite population between the control and treated plots in all three blocks. In contrast, there was a significant difference in the mean mite population in the blocks treated with Acaritouch on 7, 14 or 21 days following spraying. In a given block, the mean mite population in plots treated with Acaritouch was significantly lower on day 7, 14, or 21 compared to that on the initial day. However, in the plots treated with Acaritouch, there was no difference in the mite population between the days 7 and 14, 14 and 21, or 7 and 21. The study concludes that Acaritouch sprayed at the label rate controls red spider mite population in tea plants under field conditions. The efficacy of Acaritouch did not decrease with time over a 21-day period. So, there is no effect of repeated applications of Acaritouch within a 21-day period following the initial application. Further experiments are required to determine when the reapplication of Acaritouch is necessary, and the possible effects of Acaritouch on the sensory parameters of made tea.

Key words: Acaritouch, Red Spider Mite, Organic acaricide, Toxicity, Reapplication